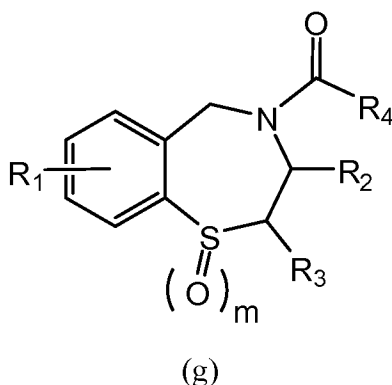


AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-12. (Canceled)

13. (Currently Amended) A method for increasing binding of FKBP12.6 to RyR2 in a subject, or limiting or preventing a decrease in the level of RyR2-bound FKBP12.6 in a subject, comprising administering an effective amount of an agent to the subject, wherein the agent is described by the formula:



wherein

R₁ = H, OR', SR', NR', alkyl, or halide, at position 2, 3, 4, or 5 on the phenyl ring; ~~[[,]]-and~~
R' = alkyl, aryl, or acyl; ~~wherein~~
R₂ = H, alkyl, alkenyl, or aryl; ~~wherein~~
R₃ = H, alkyl, alkenyl, or aryl; ~~wherein~~
R₄ = H, halide, alkenyl, carboxylic acid, or an alkyl containing halogen, O, S, or N; and
~~wherein m = 0, 1, or 2; or is an oxidized form thereof.~~

14. (Canceled)

15. (Original) The method of claim 13, wherein the subject is a human.

16. (Canceled)

17. (Currently Amended) The method of claim 13, wherein the subject has, ~~or is a candidate for,~~ a cardiac condition selected from the group consisting of cardiac arrhythmia, tachycardia,

atrial arrhythmia, atrial tachyarrhythmia, atrial fibrillation, sustained atrial fibrillation, non-sustained atrial fibrillation, ventricular arrhythmia, ventricular fibrillation, ventricular tachycardia, sustained ventricular tachycardia, non-sustained ventricular tachycardia, catecholaminergic polymorphic ventricular tachycardia (CPVT), heart failure, sudden cardiac death and exercise-induced sudden cardiac death.

18. (Currently Amended) The method of claim 13, wherein the effective amount of the agent is one or more of:

- (a) from about 5 mg/kg/day to about 20 mg/kg/day,
- (b) an amount resulting in a plasma concentration of from about 0.02 μ M to about 1.0 μ M in the subject, or
- (c) an amount resulting in a plasma concentration of from about 300 ng/ml to about 1000 ng/ml in the subject;
- ~~(d) an amount sufficient to increase binding of FKBP12.6 to RyR2 in the subject, or~~
- ~~(e) an amount that is effective to treat or prevent the cardiac condition in the subject.~~

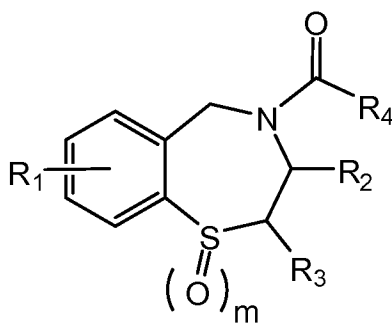
19.-24. (Canceled)

25. (Currently Amended) The method of claim 13, wherein the agent is S7, S20, S27, or S36.

26. (Original) The method of claim 25, wherein the agent is S36.

27-28. (Canceled)

29. (Currently Amended) A method for treating a cardiac condition in a subject, comprising administering an effective amount of an agent to the subject, wherein the agent is described by the formula:



(g)

wherein

R₁ = H, OR', SR', NR', alkyl, or halide, at position 2, 3, 4, or 5 on the phenyl ring;[[,]] and

R' = alkyl, aryl, or acyl; ~~wherein~~

R₂ = H, alkyl, alkenyl, or aryl; ~~wherein~~

R₃ = H, alkyl, alkenyl, or aryl; ~~wherein~~

R₄ = H, halide, alkenyl, carboxylic acid, or an alkyl containing halogen, O, S, or N; and
~~wherein m = 0, 1, or 2; or is an oxidized form thereof.~~

30. (Previously Presented) The method of claim 29, wherein the cardiac condition is selected from the group consisting of cardiac arrhythmia, tachycardia, atrial arrhythmia, atrial tachyarrhythmia, atrial fibrillation, sustained atrial fibrillation, non-sustained atrial fibrillation, ventricular arrhythmia, ventricular fibrillation, ventricular tachycardia, sustained ventricular tachycardia, non-sustained ventricular tachycardia, catecholaminergic polymorphic ventricular tachycardia (CPVT), heart failure, sudden cardiac death and exercise-induced sudden cardiac death.

31-32. (Canceled)

33. (Currently Amended) The method of claim 29, wherein the effective amount of the agent is one or more of:

(a) from about 5 mg/kg/day to about 20 mg/kg/day,

(b) an amount resulting in a plasma concentration of from about 0.02μM to about 1.0μM in the subject, or

(c) an amount resulting in a plasma concentration of from about 300 ng/ml to about 1000 ng/ml in the subject;

~~(d) an amount sufficient to increase binding of FKBP12.6 to RyR2 in the subject, or~~

~~(e) an amount that is effective to treat or prevent the cardiac condition in the subject.~~

34. (Currently Amended) The method of claim 29, wherein the agent is selected from the group consisting of S7, S20, S27, and S36.

35. (Original) The method of claim 34, wherein the agent is S36.

36.-42. (Canceled)

43. (Previously Presented) The method of claim 29, wherein the subject is a human.

44.-46. (Canceled)

47. (New) The method of claim 13, wherein $R_1 = OR'$ at position 3 on the phenyl ring.

48. (New) The method of claim 13, wherein $R_2 = H$ and $R_3 = H$.

49. (New) The method of claim 13, wherein $R_4 =$ alkenyl, carboxylic acid, or an alkyl containing I or Br; and $m = 0$ or 1 .

50. (New) The method of claim 13, wherein $R_1 = OR'$ at position 3 on the phenyl ring; $R' =$ alkyl; $R_2 = H$; $R_3 = H$; and $m = 0$ or 1 .

51. (New) The method of claim 50, wherein $R_4 =$ alkenyl, carboxylic acid, or an alkyl containing I or Br; and $R' =$ methyl.

52. (New) The method of claim 51, wherein $m = 0$; and $R_4 =$ alkenyl or carboxylic acid.

53. (New) The method of claim 29, wherein $R_1 = OR'$ at position 3 on the phenyl ring.

54. (New) The method of claim 29, wherein $R_2 = H$ and $R_3 = H$.

55. (New) The method of claim 29, wherein $R_4 =$ alkenyl, carboxylic acid, or an alkyl containing I or Br; and $m = 0$ or 1 .

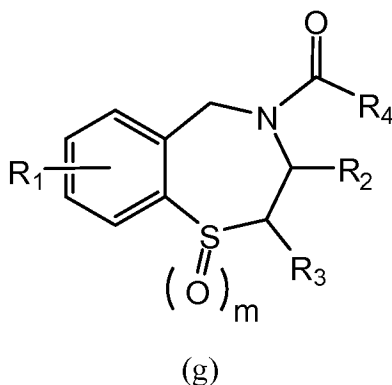
56. (New) The method of claim 29, wherein $R_1 = OR'$, at position 3 on the phenyl ring; $R' =$ alkyl; $R_2 = H$; $R_3 = H$; and $m = 0$ or 1 .

57. (New) The method of claim 56, wherein $R_4 =$ alkenyl, carboxylic acid, or an alkyl containing I or Br; and $R' =$ methyl.

58. (New) The method of claim 57, wherein $m = 0$; and $R_4 =$ alkenyl or carboxylic acid.

59. (New) A method for preventing cardiac arrhythmia in a subject, comprising

administering an effective amount of an agent to the subject, wherein the agent is described by the formula:



wherein

R₁ = H, OR', SR', NR', alkyl, or halide, at position 2, 3, 4, or 5 on the phenyl ring;

R' = alkyl, aryl, or acyl;

R₂ = H, alkyl, alkenyl, or aryl;

R₃ = H, alkyl, alkenyl, or aryl;

R₄ = H, halide, alkenyl, carboxylic acid, or an alkyl containing halogen, O, S, or N; and

m = 0, 1, or 2.

60. (New) The method of claim 59, wherein the effective amount of the agent is one or more of:

(a) from about 5 mg/kg/day to about 20 mg/kg/day,

(b) an amount resulting in a plasma concentration of from about 0.02 μM to about 1.0 μM in the subject, or

(c) an amount resulting in a plasma concentration of from about 300 ng/ml to about 1000 ng/ml in the subject.

61. (New) The method of claim 59, wherein the agent is S7, S20, S27, or S36.

62. (New) The method of claim 59, wherein the agent is S36.

63. (New) The method of claim 59, wherein the subject is a human.

64. (New) The method of claim 59, wherein R₁ = OR' at position 3 on the phenyl ring.

65. (New) The method of claim 59, wherein $R_2 = H$ and $R_3 = H$.
66. (New) The method of claim 59, wherein $R_4 = \text{alkenyl, carboxylic acid, or an alkyl containing I or Br; and } m = 0 \text{ or } 1$.
67. (New) The method of claim 59, wherein $R_1 = OR'$ at position 3 on the phenyl ring; $R' = \text{alkyl; } R_2 = H; R_3 = H; \text{ and } m = 0 \text{ or } 1$.
68. (New) The method of claim 67, wherein $R_4 = \text{alkenyl, carboxylic acid, or an alkyl containing I or Br; and } R' = \text{methyl}$.
69. (New) The method of claim 68, wherein $m = 0$; and $R_4 = \text{alkenyl or carboxylic acid}$.